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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,458	10/24/2005	Masahiko Kadokura	NIHE-38852	9033

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PEARNE & GORDON LLP
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CLEVELAND, OH 44114-3108

EXAMINER

CATTUNGAL, SANJAY

ART UNIT	PAPER NUMBER
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3768

NOTIFICATION DATE	DELIVERY MODE
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10/28/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/554,458	Applicant(s) KADOKURA, MASAHIKO	
	Examiner SANJAY CATTUNGAL	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,569,100 to Okawa et al. in view of U. S. Patent No. 6,840,938 to Morley et al. further in view of U. S. Patent No. 5,938,551 to Warner.**

3. Regarding **Claims 1, 5, and 6**, Okawa teaches an ultrasonic probe for transmitting a rotation of a motor, which is placed inside a grip portion in order to swing an ultrasonic transducer placed inside a tip portion of a longitudinal insertion portion, to said ultrasonic transducer, including: a rotation shaft linked to a rotation shaft of said motor so that a tip is extended inside the tip portion of said insertion portion (Abstract; fig. 1a element 1, 5, 9, and 7 and col. 5 lines 55-60; a first pulley attached to said tip of said rotation shaft (fig. 1 element 9 and Col. 5 lines 55-60); a second pulley attached to a swinging shaft of said ultrasonic transducer (fig. 1a element 5 and Col. 5 lines 55-60); an idler roller (middle pulley) placed between said first and second pulleys (Fig. 2 element 21); and a belt laid between said first and second pulleys and said idler roller (middle pulley) (fig. 2 element 10).

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4. Okawa does not expressly teach the use of a wire to engage the pulleys.
5. Morley teaches the use of cables to engage the pulleys (Fig. 4b).
6. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Okawa with a setup to use cables to engage the pulley as taught by Morley, since the use of cables/wires/belts with pulleys is known in the art as they are obvious variants of each other.
7. Okawa and Morley do not expressly teach the use of a pulley for tensioning and a sliding mechanism for supporting said middle pulley in such a manner that said middle pulley is slidable in a direction toward and away from said first pulley to protect looseness of the wire, and said middle pulley is not movable in a longitudinal direction of said longitudinal insertion portion.
8. Warner teaches the use of a pulley for tensioning and a sliding mechanism for supporting said middle pulley in such a manner that said middle pulley is slidable in a direction toward and away from said first pulley, in a direction parallel to the longitudinal direction of the swinging shaft, to reduce looseness of the wire, and said middle pulley is not movable in a longitudinal direction of said longitudinal insertion portion (Figs. 3, 9, and 12 elements 94, 96, and 74).
9. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Okawa and Morley to use a pulley for tensioning and a sliding mechanism for the pulley such that pulley slides towards and away from first pulley but is not movable in longitudinal direction as taught by Warner since such a setup would result in a more efficient tensioning of the cable, moreover use of pulley and idle rollers

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are known in the art as they are obvious variants of each other and achieve the same result of tensioning the cables.

10. Regarding **Claims 2 and 7**, Warner teaches a slider portion to which said middle pulley is attached and which can be slid in a direction orthogonal to a rotation direction of said first pulley along a slider guide portion formed at said tip portion (Figs. 3, 9, and 12 elements 94, 96, and 74); and a screw for fixing said slider portion to said tip portion (Figs. 3, 9, and 12 element 54).

11. Regarding **Claim 3**, Okawa teaches that the wire is made of line material having both ends and has a block for fixing both of the ends of said line material, and said block is attached to first pulley (Fig. 5b element 9b and element 41).

12. **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,569,100 to Okawa et al. in view of U. S. Patent No. 6,840,938 to Morley et al. further in view of U. S. Patent No. 5,938,551 to Warner and further in view of U. S. Patent No. 6,709,397 to Taylor.**

13. Regarding **Claim 4**, Okawa, Morley, and Warner teach all of the above claimed limitations but do not expressly teach that the wire is confined to the tip portion.

14. Taylor teaches that the wire is confined in the tip portion (Figs. 1, 2, and 8).

15. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Okawa, Morley, and Warner such that the wire is confined to the tip portion as taught by Taylor, since such a setup would be beneficial for long cavital probes which are inserted into a cavity and need to be thin, as it would be more comfortable to the subject.

Response to Arguments

16. Applicant's arguments filed 08/06/2010 have been fully considered but are not persuasive.

17. Applicant argues that none of the references teach that the said middle pulley is movable in a direction toward and away from the first pulley to reduce looseness of the wire. Examiner would like to point out that the Warner reference teaches a sliding mechanism for supporting said middle pulley in such a manner that said middle pulley is slidable in a direction toward and away from said first pulley, in a direction parallel to the longitudinal direction of the swinging shaft, to reduce looseness of the wire, and said middle pulley is not movable in a longitudinal direction of said longitudinal insertion portion (Figs. 3, 9, and 12 elements 94, 96, and 74). As such all the elements have been met and the rejection still holds and is made **FINAL**.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANJAY CATTUNGAL whose telephone number is (571)272-1306. The examiner can normally be reached on Monday-Friday 9-5.

21. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SANJAY CATTUNGAL/
Examiner, Art Unit 3768

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768